

SOME LAND SHELLS FROM THE ALEUTIAN ISLANDS, ALASKA

BY G. DALLAS HANNA

The California Academy of Sciences has two fairly extensive collections of land shells from the Aleutian Islands, Alaska, among which there are several species not hitherto recorded from the region. Since their distribution has an important bearing on some biological studies the list seems worth publishing.

One collection was made by Dr. E. C. Van Dyke, entomologist of the University of California. In 1907 he spent considerable time on Unalaska Island and to the westward, and his success in finding minute species is not often duplicated among professed conchologists.

The other collection was made by me in the vicinity of Unalaska at various times when enroute to or from the Pribilof Islands, 1913-1920.

The northwestward extension of what Van Dyke¹ has called the Vancouverian fauna is particularly worthy of note. What he has found among the insects appears to be true also of the land shells.

It is true that Dr. Dall² suspected the occurrence of *Polygyra columbiana* and *Circinaria vancouverensis* at Unalaska to be due to the transplantation of spruce trees from southeast Alaska, but the wide distribution of these snails and other species in that vicinity makes this explanation seem doubtful. If a similar situation did not exist among the insects the accidental planting theory would suffice, perhaps; but it seems very improbable now that so large a number of species of animals would have been thus introduced with the few trees which were brought.

Special search among the small groves of spruce trees on

¹The Distribution of Insects in Western North America, by Edwin C. Van Dyke, *Ann. Ent. Soc. Amer.* Vol. 12, 1919, pp. 1-12. *Proc. Calif. Acad. Sci.* 4th ser. Vol. 11, 1921, p. 157.

²Dall, *NAUTILUS*, Vol. 31, 1917, p. 13.

several different occasions failed to reveal any land shells except *Succinea*, *Vitrina* and *Vertigo*. The others were found about the roots of herbaceous vegetation and grasses of the rolling hill country. Dr. Van Dyke's finding of the *Polygyra* at Makushin Bay many miles removed from the transplanted trees strengthens the belief that this and the other species have lived on the Aleutians for a long period of time.

Succinea chrysis Westerlund.

Makushin Bay, Unalaska Island; Glacier River, Unalaska Island; Unalaska town; Amoknok Island near Dutch Harbor; Nazan Bay, Atka Island (Van Dyke).

At these localities the species has not attained the large size and beautiful golden color of the shells from St. Paul Island, 200 miles to the northward.

Vertigo modesta Say.

Makushin Bay, Unalaska Island; Unalaska town; Unalaska Island; Dutch Harbor, Amoknok Island; Nazan Bay, Atka Island (Van Dyke); Expedition Island near Unalaska; Hog Island in Broad Bay near Dutch Harbor (G. D. H.).

The large number of specimens from these localities shows considerable variation and a strict identification would probably necessitate putting some of them under the named varieties but my study does not seem to warrant this disposition at present.

Columella alticola (Ingersoll).

Near Unalaska, Unalaska Island (G. D. H.). This appears to be the large boreal form rather than the shorter *edentula* of the eastern United States.

Circinaria vancouverensis (Lea).

Near town of Unalaska, Unalaska Island; Makushin Bay, Unalaska Island; Amoknok Island (Van Dyke); Expedition Island near Unalaska; across straight from Unalaska wharves, Amoknok Island and near town of Dutch Harbor, same island (G. D. H.).

My attention was first called to this species as a resident of

the Unalaska region by Dr. Alex Wetmore, then of the U. S. Biological Survey, who found it there in abundance in 1912. Precise directions led me to the same spot in 1916 where large numbers of the species were found. Many of them had been broken and the animal removed, presumably by fieldmice. Subsequently the species was found widely distributed in the region and abundant in favorable localities.

Pyramidula cronkhitei (Newcomb).

Unalaska town, Unalaska Island; Dutch Harbor, Amoknok Island; Nazan Bay, Atka Island (Van Dyke); Hog Island in Broad Bay near Amoknok Island (G. D. H.).

The species is very abundant in some places and appears to be the same as the form found in the higher mountains of California and northward.

Punctum conspectum (Bland).

Found sparingly on Amoknok Island, at numerous places by both Dr. Van Dyke and me. It has been listed from Unalaska previously.¹

Polygyra columbiana (Lea).

Unalaska Island, several places about Bay; Makushin Bay, Unalaska Island; Amoknok Island, several places (Van Dyke) (G. D. H.).

Many live specimens collected do not appear to differ from those found far southward in the range of the species.

Euconolus fulvus alaskensis Pilsbry.

Unalaska Island, at town; Amoknok Island, near Dutch Harbor (Van Dyke) (G. D. H.); Makushin Bay, Unalaska Island; Nazan Bay, Atka Island (Van Dyke); Hog Island in Broad Bay near Amoknok Island (G. D. H.).

Polita binneyana (Morse).

Unalaska Island, near town; Amoknok Island, near Dutch Harbor (G. D. H.).

¹ Dall, Harriman Alaska Expedition, Vol. 13, 1910, p. 53.

Vitrina alaskana Dall.

Unalaska Island, near town; Amoknok Island, near Dutch Harbor (Van Dyke) (G. D. H.); Makushin Bay, Unalaska Island; Nazan Bay, Atka Island (Van Dyke); Hog Island in Broad Bay, near Amoknok Island (G. D. H.).

Pristiloma arctica (Lehnert).

Near Dutch Harbor, Amoknok Island (Van Dyke) (G. D. H.); Near town, Unalaska Island; Expedition Island near Unalaska (G. D. H.).

Zoogenites harpa (Say).

Near Dutch Harbor, Amoknok Island; near Unalaska town, Unalaska Island; Hog Island in Broad Bay near Amoknok Island (G. D. H.).

Prophysaon andersoni (J. G. Cooper).

Near town of Unalaska, Unalaska Island; many places on Amoknok Island (G. D. H.).

Two color phases of what appears to be this slug are very abundant on both islands mentioned. In the early spring they were collected in large numbers crawling over the dead vegetation where the snow had melted.

LYMNÆA AURICULARIA (LINN.) IN CALIFORNIA

BY G. DALLAS HANNA AND H. WALTON CLARK

The finding of *Lymnæa auricularia* in California during 1924 extends the range of this exotic form several hundred miles to the westward. Its first occurrence in the state was noted in a pool in the Japanese tea garden, in Golden Gate Park, San Francisco (H. W. C.). Later it was found in abundance in the fountain pool at the resort known as Byron Hot Springs, Contra Costa County, California (G. D. H.).

Both of these localities are such to indicate that the mollusks were "planted" in some manner but there is no way to trace positively the source of the original stock.